

CLAIMS

1. An arrangement structure of ultra-high resolution pixel electrodes in a device for detecting high-energy x-rays or gamma rays in which a plurality of sensor sections are arranged in shifted positions, including staggered positions, so as to acquire a resolution equal to or higher than the resolution determined by the dimensions of a sensor element, comprising:

 a plurality of sensor sections;

 a plurality of electrode sections on which said sensor sections are mounted;

 an amplification section; and

 a plurality of wiring sections for connecting said electrode sections and said amplification section, characterized in that

 an area of said electrode section on which said sensor section is mounted and an area of the pattern of said wiring section are substantially the same in each sensor, so that the composite capacitance of each electrode section and each wiring section becomes the same in each sensor .

2. An arrangement structure of ultra-high resolution pixel electrodes in a device for detecting high-energy x-rays or gamma rays in which a plurality of sensor sections are arranged in shifted positions, including staggered positions,

so as to acquire a resolution equal to or higher than the resolution determined by the dimensions of a sensor element, comprising:

 a plurality of sensor sections;
 a plurality of electrode sections on which said sensor sections are mounted;
 an amplification section; and
 a plurality of wiring sections for connecting said electrode sections and said amplification section,
characterized in that

 a dummy section on which the sensor section is not mounted is created on the electrode section on which the sensor section is to be mounted, so that the pattern of each electrode section has the same shape and the capacitance of each electrode section becomes the same.

3. An arrangement structure of ultra-high resolution pixel electrodes in a device for detecting high-energy x-rays or gamma rays in which a plurality of sensor sections are arranged in shifted positions, including staggered positions, so as to acquire a resolution equal to or higher than the resolution determined by the dimensions of a sensor element, comprising:

 a plurality of sensor sections;
 a plurality of electrode sections on which said sensor sections are mounted;

an amplification section; and
a plurality of wiring sections for connecting said
electrode sections and said amplification section,
characterized in that

a dummy section on which the sensor section is not
mounted is created on the electrode section on which the
sensor section is to be mounted, so that the area of the
pattern of each electrode section becomes the same, and the
capacitance of each electrode section becomes the same.

4. An arrangement structure of ultra-high resolution
pixel electrodes in a device for detecting high-energy x-rays
or gamma rays in which a plurality of sensor sections are
arranged, comprising:

a plurality of sensor sections;
a plurality of electrode sections on which said
sensor sections are mounted;
an amplification section; and
a plurality of wiring sections for connecting said
electrode sections and said amplification section,
characterized in that

an area of each electrode section is different in
order to match the composite capacitance of each electrode
section and of each wiring section connected thereto in each
sensor, so as to cancel the difference of capacitance
depending on the length of each wiring section.

5. An arrangement structure of ultra-high resolution pixel electrodes in a device for detecting high-energy x-rays or gamma rays in which a plurality of sensor sections are arranged, comprising:

 a plurality of sensor sections;
 a plurality of electrode sections on which said sensor sections are mounted;
 an amplification section; and
 a plurality of wiring sections for connecting said electrode sections and said amplification section, characterized in that

 an area of each wiring section is substantially the same by changing the width of each wiring section in order to match the composite capacitance of each electrode section and of each wiring section connected thereto in each sensor, so as to cancel the difference of capacitance depending on the length of each wiring section.

6. The arrangement structure of ultra-high resolution pixel electrodes according to Claims 1 through 5, characterized in that a detection device comprising said plurality of sensor sections, said plurality of electrode sections, said plurality of wiring sections and said amplification section is regarded as one block, and is disposed with another block of a similar detection device

facing each other so as to double the number of pixels of the sensor sections.

7. A signal processing method in the arrangement structure of ultra-high resolution pixel electrodes according to Claim 6, characterized in that when signals are extracted from said plurality of sensor sections in time series, the signals are first extracted from the first sensor section of a first block, then from the first sensor section of an opposite block, then from the second sensor section of the first block, and the extraction is repeated sequentially until the last sensor section so as to decrease the influence of leak signals from an adjacent wiring section.